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(56) Related Art  
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US 5174492  
US 5014906

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## ABSTRACT

Pack (1) for cigarettes, comprising a carton body (2) for containing cigarettes, which carton body has a first main wall (3) opposite which is a second main wall (4), as well as a bottom wall (5) opposite which is a top wall (6), and side walls (7) (8) situated 5 opposite one another. The carton body is such that the cigarettes (9) stand on the bottom wall and extend in the direction of the top wall. The first main wall (3) is free to hinge around a hinging line (12) situated in the area of the bottom wall, so that the first main wall is free to hinge between a closed position, in which the first main wall is essentially parallel to the second main wall and the carton body is essentially closed, and an opened 10 position, in which the first main wall faces obliquely outward relative to the second main wall, and an opening (13) is created in the carton body between the top wall and the first main wall for removal of the cigarettes.

On the side of the second main wall, the pack is provided with a press-button (15) which can be operated essentially transversely to the plane of the second main wall, 15 which press-button can be operated preferably with just one finger, which press-button is in contact with the hinging first main wall, in such a way that, when the press-button is pushed, the first main wall hinges from the closed position to the opened position.

## AUSTRALIA

## **PATENTS ACT 1990**

## COMPLETE SPECIFICATION

## FOR A STANDARD PATENT

**ORIGINAL**

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Invention Title: 'CIGARETTE PACK'

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

File: 30197AUP00

CIGARETTE PACK

The present invention relates to a pack for cigarettes, comprising a carton body for containing cigarettes, which carton body has a first main wall opposite which is a second main wall, as well as a bottom wall opposite which is a top wall, and side walls situated 5 opposite one another, whereby the carton body is such that the cigarettes stand on the bottom wall and extend in the direction of the top wall.

A cigarette pack in accordance with the preamble is generally known in a version in which the first and second main walls, together with the bottom wall and side walls attached to them, form a compartment open at the top for the cigarettes standing on the 10 bottom. The top wall is free to hinge between a closed and an opened position to allow the cigarettes to be taken out.

It is an object of the present invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

A preferred embodiment of the invention aims to create a cigarette pack which is 15 easier to open than the known pack. A further embodiment aims to create a cigarette pack which makes it easier to take a cigarette out, in particular if all or nearly all of the cigarettes are present in the pack. A yet further embodiment aims to create a pack which can be made from one single carton blank and requires little material. At the same time an aim of another embodiment is to create a pack which is easy to manufacture and fill 20 with cigarettes.

According to the invention there is provided a pack for cigarettes, comprising a carton body for containing cigarettes, which carton body has a first main wall opposite which is a second main wall, as well as a bottom wall opposite which is a top wall, and side walls situated opposite one another, whereby the carton body is such that the

cigarettes stand on the bottom wall and extend in the direction of the top wall, whereby the first main wall is free to hinge around a hinging line situated in the area of the bottom wall, so that the first main wall is free to hinge between a closed position in which the first main wall is essentially parallel to the second main wall and the carbon body is

5       essentially closed, and an opened position in which the first main wall faces obliquely outward relative to the second main wall and an opening is created in the carton body between the top wall and the first main wall for the removal of cigarettes, whereby on the side of the second main wall the pack is provided with an operable press-button, which can be operated with one or more fingers, which press-button is in contact with the

10      hinging first main wall in such a way that, when the press-button is pushed, the first main wall hinges from the closed position into the opened position.

Unless the context clearly requires otherwise, throughout the description and the claims, the words 'comprise', 'comprising', and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense

15      of "including, but not limited to".

Further advantageous embodiments are described in the succeeding claims and in the description which follows.

The invention also relates to a carton blank, preferably of suitable cardboard, for the manufacture of the pack.

20      The invention further relates to a method in accordance with Claim 19.

In the following the invention will be further illustrated by reference to the drawings, in which, by way of a non-limiting example, a preferred embodiment of the pack in accordance with the invention is illustrated.

The drawings show:

Figure 1, a perspective view of the front pack,

Figure 2, a perspective view of the rear of the pack,

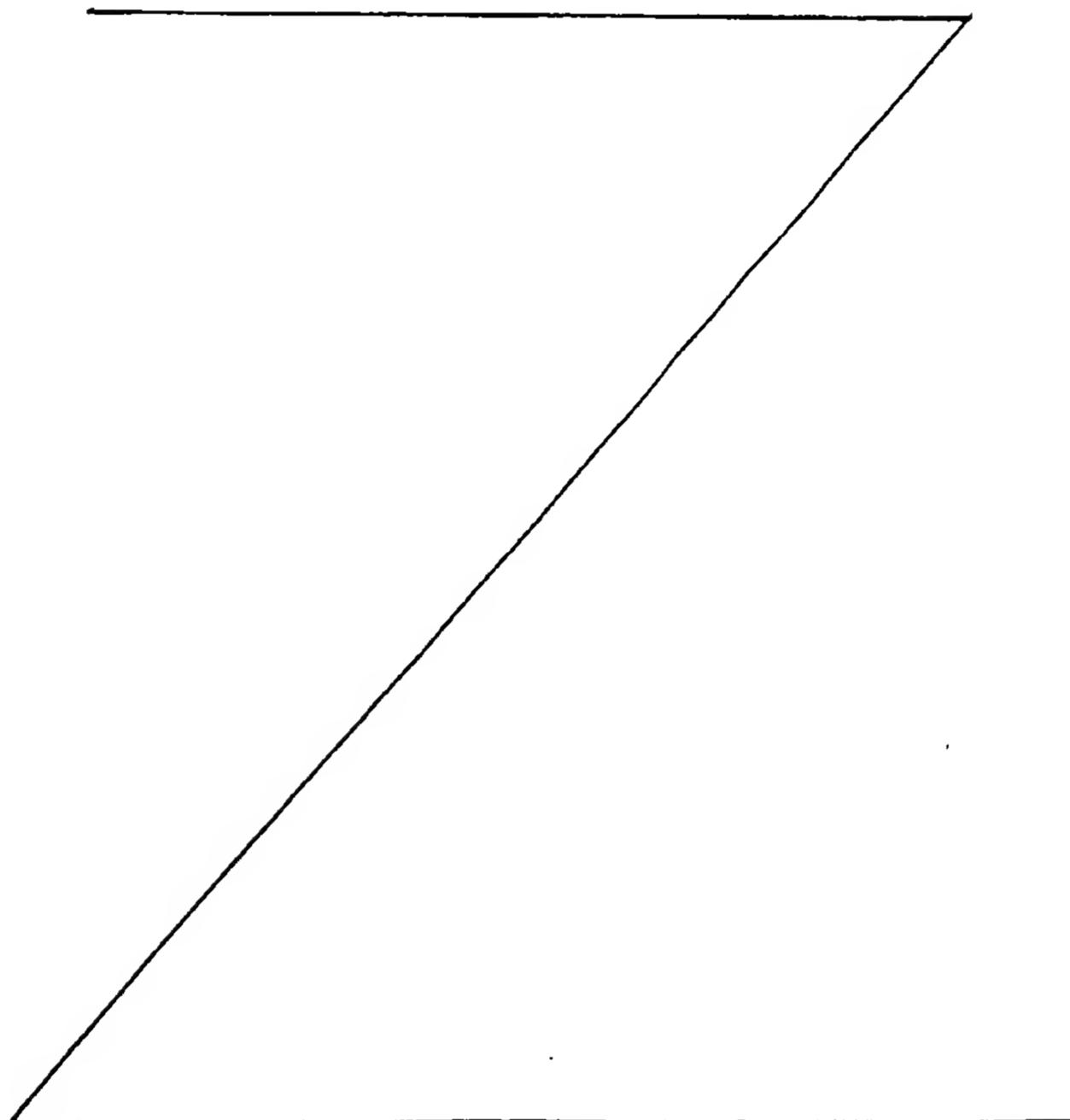
Figure 3, a perspective view of the pack in opened position,

Figure 4, the representation of Figure 3 as wire-frame graphic.

5 Figure 5a, the position of the cigarettes if the pack is closed,

Figure 5b, the position of the cigarettes if the pack is opened,

Figure 6, the carton blank of the pack.



Figures 7 - 12, successive stages of the manufacture of the pack based on the carton blank from Figure 6,

Figures 13a-d, schematically opening the pack.

Figures 1-4 show a pack (1) in accordance with the 5 invention for cigarettes, whereby for the sake of clarity the cigarettes are omitted. Normally the pack is enclosed in cellophane, that here has already been removed.

Pack (1) comprises carton body (2) for containing cigarettes, which carton body is made from a carton blank of 10 suitable cardboard, as shown in Figure 6.

For accurate understanding of the following description of the pack, references are generally made to all of the Figures in the drawings. The expert in particular will be able to appreciate the execution and functioning of the pack 15 by reference to the carton blank shown in Figure 6 and the manufacturing method as shown in Figures 7-12. In some cases references are made to a specific Figure.

Carton body (2) has a first main wall (3) opposite which 20 is a second main wall (4), as well as a bottom wall (5) opposite which is a second main wall (4), as well as a bottom wall (5) opposite which is a top wall (6), and side walls (7, 8) situated opposite one another. Main walls (3, 4) have greater dimensions than each of the other walls of the carton body.

In the closed position of pack (1), together with the bottom wall, top wall and side walls, main walls (3, 4) form the outer contour of pack (1). The dimensions of carton body (2) are such that, as can be seen in Figure 5a, in the closed 5 position of pack (1), the cigarettes (9) are facing bottom wall (5) at right angles. Pack (1) is arranged to contain cigarettes (9), as is the normal manner, in three rows (10, 11, 12) between first and second walls (3, 4).

Bottom wall (5), top wall (6) and side walls (7, 8) 10 essentially face second main wall (4) at right angles. Bottom wall (5), top wall (6) and side walls (7, 8) have a fixed orientation relative to second main wall (4) and, together with second main wall (4), form a rigid assembly.

As can be seen in particular in Figures 3 and 4, first 15 main wall (3) is free to hinge relative to that rigid assembly. Main wall (3) is free to hinge around associated hinging line (12), which hinging line (12) is formed by the folded edge, which joins first main wall (3) to bottom wall (5).

20 First main wall (3) is free to hinge between a closed position (see Figures 1 and 2), in which first main wall (3) is parallel to second main wall (4), and carton body (2) is essentially closed, and an opened position (see Figures 3 and 4), in which first main wall (3) faces obliquely outward 25 relative to bottom wall (5) and second main wall (4). In the

opened position of first main wall (3), an opening (13) for the removal of cigarettes (9) is created in carton body (2) between top wall (6) and the top limit of first main wall (3).

5 In the obliquely opened position of main wall (3), that main wall (3) is approximately parallel to the diagonal of side walls (7, 8) of carton body (2).

On the side of second main wall (4), pack (1) is provided with press-button (15) which can be operated essentially transversely to the plane of second main wall (4), which 10 press-button (15) can be operated with one finger. Press-button (15), to be further clarified, is in contact with hinging first main wall (3), in such a way that, when press-button (15) is pushed, first main wall (3) hinges from the closed position to the opened position.

15 Pack (1) comprises additional walls, to be further clarified, which, together with first main wall (3), border an open compartment for cigarettes (9) open at top and bottom, in such a way that, as main wall (3) is hinged into the opened position, at least when the pack is completely full, 20 cigarettes (9) are forced into an oblique position relative to bottom wall (5). This effect is shown in Figure 5b.

So when press-button (15) is pushed, not only is first main wall (3) moved outwards, but cigarettes (9) are also moved into that oblique position. Because bottom wall (5) 25 retains its fixed orientation, the result is that the tops of

the cigarettes in neighbouring rows (10, 11, 12) no longer form a plane (as in Figure 5a), but rather lie in different planes receding from one another, as is indicated by dashed lines in Figure 5b. This receding positioning of the tops 5 makes it considerably easier to take hold of a cigarette (9), and to take it out of a full pack (1), than with the known pack.

In the preferred embodiment shown, second main wall (4) is provided with a single press-button opening (16), which is 10 large enough to pass a finger through.

Pack (1) further comprises an additional press-button wall part (17), that is free to move relative to second main wall (4), and that, with the pack in the closed position, essentially extends along the inside of second main wall (4), 15 and across press-button opening (16).

Press-button wall part (17) is in contact, in a manner to be further described, with hinging first main wall (3). By placing a finger against press-button wall part (17) in the area of press-button opening (16) in second main wall (4), 20 first main wall (3) can be moved from the closed position to the opened position.

In the closed position of first main wall (3), press-button wall part (17) lies against the inside of second main wall (4).

Side flaps (20, 21) are attached to first main wall (3), which side flaps extend along the inside of each of the side walls (7, 8) of carton body (2).

On the one hand side flaps (7, 8) form a barrier in the 5 gap between opened first main wall (3) and side walls (7, 8), and on the other hand form a limit for the opened position of first main wall (3). This is because, when first main wall (3) is pressed open, the edges of side flaps (20, 21) facing top wall (6) then lie on the inside of main wall (6) of carton 10 body (2).

Press-button wall part (17) extends between side walls (7, 8), yet press-button wall part (17) is otherwise free to move relative to side walls (7, 8). Fitted to the press-button wall part are side flaps (23, 24), which extend along 15 the inside of each of the side walls (7, 8) of carton body (2) in the direction of first main wall (3).

When press-button wall part (17) is pressed, in other words when press-button wall part (17) is pressed away from second main wall (4), press-button wall part (17) is supported 20 against first main wall (3), via its side flaps (23, 24). As a variant of this or in combination with this it may also be imagined that press-button wall part (17) is supported against side flaps (20, 21) of first main wall (3), in order to press first main wall (3) into the opened position. In fact, 25 together with its side flaps and/or the side flaps of first

main wall (3), press-button wall part (17) forms a kind of U-shaped press-button component, that lies around the cigarettes and touches onto first main wall (3). Then, together with first main wall (3), the U-shaped component forms the open 5 compartment running from top to bottom in which cigarettes (9) are arranged.

Press-button wall part (17) is not arranged loose in carton body (2), but rather, while free to move, is attached to it via connecting body (25). Connecting body (25), while 10 free to move around hinging line (26), is connected to the rigid assembly, of which second main wall (4) forms part. In this example, hinging line (26) is in the angle between second main wall (4) and top wall (6).

Free to hinge around a subsequent hinging line (27), 15 press-button wall part (17) is connected to connecting body (25). Hinging lines (26, 27) are parallel to each other and parallel to hinging line (12) of first main wall (3). Furthermore, if pack (1) is closed, hinging line (27) is situated such that it is not visible in the area of press- 20 button opening (16).

In the embodiment described press-button wall part (17) forms a press-button plane that can be operated with a finger, and that lies a little deeper than the outer plane of second main wall (4). A variant makes it possible to make press- 25 button wall part (17) with a press-button projection,

preferably in a relief formed in press-button wall part (17), that in the closed position of first main wall (3) projects into press-button opening (16) and possibly extends outward relative to second main wall (4).

5 In order to draw attention to press-button (15), it can be provided with a noticeable inscription.

Figure 6 shows carton blank (30) from which pack (1) described earlier can be manufactured. In Figure 6 the components which have been discussed earlier have the same 10 reference numbers. Moreover, fold lines are indicated as dashed lines, and cut lines as thick continuous lines.

Already it is directly evident that carton blank (30) is a rectangular strip with a width equal to the width of second main wall (4) and adjacent side walls (7, 8). This means very 15 small consumption of material for the manufacture of pack (1).

Figures 7-12 show a few stages in the transformation of carton blank (30) into pack (1).

Figure 7 shows carton blank (30) in flat state. Here side walls (7, 8) each border second main wall (4) via a fold. 20 The long side of bottom wall (5) borders second main wall (4) via a fold, and first main wall (3) borders the other long side of bottom wall (5) via a fold (12). Associated side flaps (20, 21) border first main wall (3) each via a fold. Side flaps (20, 21) lie in the extension of side walls (7, 8) 25 and securing tabs (31-34).

Rectangular top wall (6) borders by one of its long sides second main wall (4) via a fold, and by its other long side borders intermediate wall part (35) via a fold. On the other side intermediate wall part (35) borders connecting body (25) 5 via folded line (26).

Press-button wall part (17) lies in the extension of first and second main walls (3, 4), bottom wall (5), top wall (6) and intermediate wall part (35), as well as connecting body (25).

10 Side flaps (23, 24) border press-button wall part (17) and lie in the extension of side walls (7, 8).

Short bordering edges (36, 37) of carton blank (30) have complementary shapes, so that many carton blanks can be manufactured from one long strip without loss of material.

15 In Figure 8 securing tabs (31, 32, 33, 34) are folded over on the short sides of side walls (7, 8), which tabs (31- 34) serve to fix in a set orientation bottom wall (5), side walls (7, 8) and top wall (6) relative to second main wall (4).

20 In Figure 9 side walls (7, 8) are positioned at right angles to second main wall (4). At the same time side flaps (20, 21) are positioned at right angles to first main wall (3).

In Figure 10 top wall (6) is positioned at right angles to second main wall (4). Furthermore side flaps (23, 24) are folded at right angles to press-button wall part (17).

In Figure 11 intermediate wall part (35) is folded over 5 tabs (33,34) so that wall part (35) lies along the inside of top wall (6). Furthermore, folded line (26) now lies in the angle between top wall (6) and second main wall (4). Preferably wall part (35) is fixed in this position to top wall (6) and/or tabs (33, 34).

10 Connecting body (25) and press-button wall part (17) lie against the inside of second main wall (4) without being attached to it. This allows press-button wall part (17) to span opening (16) in second main wall (4). Side flaps (23, 24) lie along the inside of side walls (7, 8).

15 In Figure 12 it is evident that bottom wall (5) is folded over, and taken and secured to tabs (31, 32). Then ultimately only first main wall (3) needs to be taken parallel to second main wall (4), in order to close the pack.

Naturally, prior to pack (1) being closed, the cigarettes 20 have to be placed in the pack. This can be done for example if the carton blank is in a stage corresponding to Figures 10, 11 or 12, or during the transition from the one stage to another. If so desired the cigarettes may also be enclosed in a foil of aluminium or similar.

In the drawings, in particular Figure 6, it can also be seen that the top edge area of first main wall (3) is provided with a removable part (37), that is bordered for example by a perforation (38). Once the pack has been opened, this part

5 (38) can be removed to provide better grip on the cigarettes.

However, this option does not have to be present. In Figures 1, 3, 4 it is assumed that this part (38) has been removed.

Finally the operation and use of pack (1) will be illustrated by reference to schematic Figures 13a-d.

10 Figure 13a shows closed pack (1) seen from the side of second main wall (4), and Figure 13b shows the side of the closed pack. The dashed lines indicate the location of press-button opening (16).

Now when the consumer pushes a finger against press-  
15 button (15), and thus against press-button wall part (17), this results in a hinging motion of first main wall (3), as is visible in Figure 13c. Connecting part (25) then also carries out a hinging motion.

Press-button (15) may be continued to be pushed until  
20 first main wall (3) attains its ultimate opened position, which here is limited, because side flaps (20, 21) come against top wall (6) (see Figure 13d).

The consumer may hold pack (1) for example between thumb and middle finger, then each touching side wall (7, 8) of the  
25 pack, and with the first finger of that hand touching press-

button (15). Pushing the press-button now opens the pack. Pushing first wall (3) back into its closed position makes press-button wall part (17) and connecting body (25) return to lie in the position in which they were lying against the  
5 inside of second main wall (4).

It will be clear to the expert that, within the framework of the thinking behind the invention, further applications are possible. For instance, it may be imagined that the hinging line of the first main wall does not coincide with the edge of the bottom wall, but rather lies at a distance parallel to that edge, yet preferably still in the area of or close to the bottom wall.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Pack for cigarettes, comprising a carton body for containing cigarettes, which carton body has a first main wall opposite which is a second main wall, as well as a bottom wall opposite which is a top wall, and side walls situated opposite one another, whereby the carton body is such that the cigarettes stand on the bottom wall and extend in the direction of the top wall, whereby the first main wall is free to hinge around a hinging line situated in the area of the bottom wall, so that the first main wall is free to hinge between a closed position in which the first main wall is essentially parallel to the second main wall and the carton body is essentially closed, and an opened position in which the first main wall faces obliquely outward relative to the second main wall and an opening is created in the carton body between the top wall and the first main wall for the removal of cigarettes, whereby on the side of the second main wall the pack is provided with an operable press-button, which can be operated with one or more fingers, which press-button is in contact with the hinging first main wall in such a way that, when the press-button is pushed, the first main wall hinges from the closed position into the opened position.

2. Pack in accordance with Claim 1, whereby the bottom wall is fixed relative to the second main wall and the first main wall is free to hinge relative to the bottom wall around the edge of the bottom wall situated away from the second main wall.  
5
3. Pack in accordance with Claim 2, whereby the pack comprises further additional wall parts, which together with the first main wall, at the top and bottom form a limit to an open compartment for the cigarettes, in such 10 a way that when the first main wall is hinged into the opened position, at least in the case of a completely filled pack, the cigarettes are forced into an oblique position relative to the bottom wall.
4. Pack in accordance with one or more of the preceding 15 claims, whereby the second main wall is provided with one or more press-button openings, through which a press-button projects, or through which a press-button situated behind the second main wall is accessible.
5. Pack in accordance with Claim 4, whereby a press-button 20 wall part is provided, that is free to move relative to the second main wall, and that, with the pack in closed state, extends essentially along the inside of the second main wall and across the press-button opening(s), which press-button wall part touches the first main wall for 25 hinging the first main wall into the opened position.

6. Pack in accordance with Claim 5, whereby, with the first main wall in the closed position, the press-button wall part lies against the inside of the second main wall.
7. Pack in accordance with one or more of the preceding 5 claims, whereby side flaps are attached to the first main wall, which flaps extend along the inside of each of the side walls of the carton body.
8. Pack in accordance with Claim 7, whereby the side flaps of the first main wall form a limit for the opened 10 position of the first main wall, in such a way that, with the first main wall in the opened position, the side flaps lie against the top wall of the carton body.
9. Pack in accordance with Claims 6 and 7, whereby side 15 flaps are attached to the press-button wall part, which side flaps extend along the inside of each of the side walls of the carton body in the direction of the first main wall.
10. Pack in accordance with Claims 7 and 8, whereby, when the press-button is pushed, the side flaps support the press- 20 button wall part against the first main wall and/or the press-button wall part is supported against the side flaps of the first main wall.
11. Pack in accordance with Claim 5, whereby a connecting body is provided that, while free to move, connects the 25 press-button wall part with the carton body.

12. Pack in accordance with Claim 11, whereby, around hinging axis lines parallel to the hinging axis line of the first main wall, the connecting body is on the one hand free to hinge and connected to the second main wall, preferably in the area near to the top wall, and on the other hand is connected to the press-button wall part.  
5
13. Pack in accordance with Claim 5, whereby the second main wall is provided with a single press-button opening, situated approximately in the centre of the second main wall.  
10
14. Pack in accordance with Claim 5, whereby the press-button wall part is provided with a press-button wall projection, preferably a relief formed in the press-button wall part, that, in the closed position of the first main wall, projects into the press-button opening.  
15
15. Pack in accordance with one or more of the preceding claims, whereby the carton body is arranged to contain several rows of cigarettes lying against one another between the first and the second main walls.  
16. Pack in accordance with one or more of the preceding claims, whereby the carton body is manufactured from cardboard.  
20
17. Pack in accordance with Claim 16, whereby the carton body and the press-button wall part are manufactured from one single carton blank.  
25

18. Carton blank for the manufacture of a pack in accordance with one or more of the preceding claims.

19. Method for the manufacture of a pack in accordance with one or more of the preceding claims, whereby, together with the top wall, side walls and the press-button 5 wall part lying against the second main wall, the second main wall is formed into an open container, after which the cigarettes are placed into the container, and the hinging first main wall is moved into the closed position.

20. A pack substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings.

10 21. A carton blank substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings.

22. A method of manufacture of a pack substantially as herein described with reference to any one of the embodiments of the invention illustrated in the accompanying drawings.

15 DATED this 18th Day of December, 2000

BRITISH AMERICAN TOBACCO (INVESTMENTS) LIMITED

Attorney: CAROLINE M. BOMMER  
Fellow Institute of Patent and Trade Mark Attorneys of Australia  
of BALDWIN SHELSTON WATERS

Fig.1.

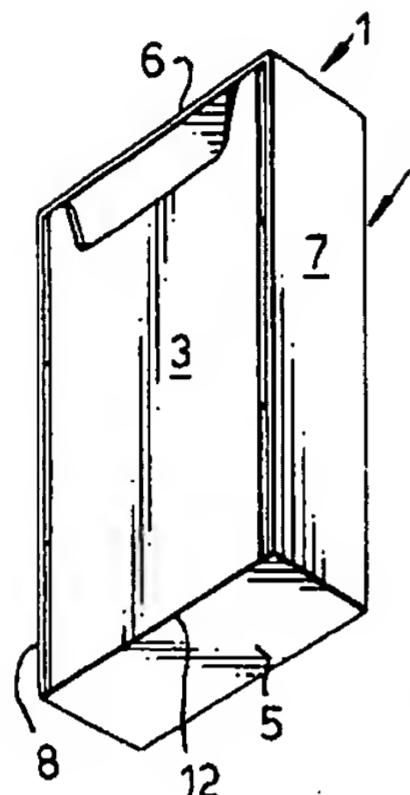


Fig.2.

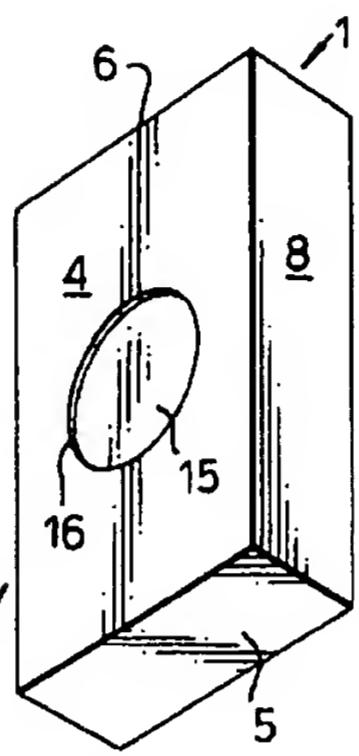


Fig.3.

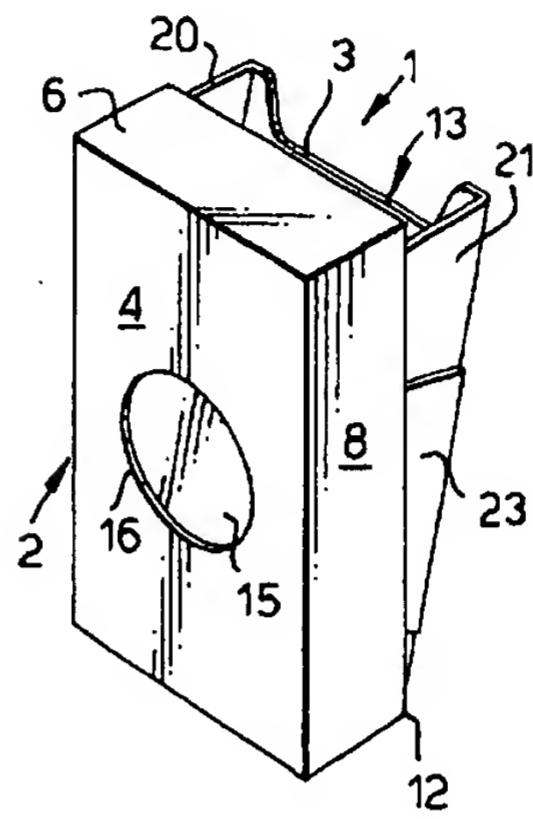


Fig.4.

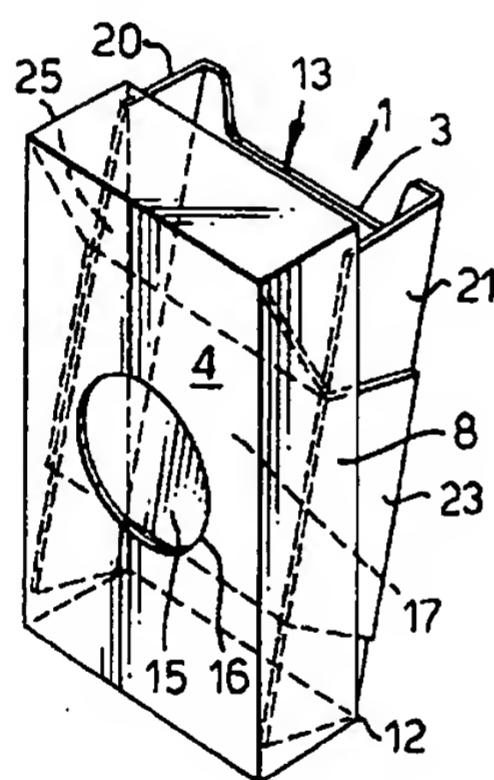


Fig.5a.

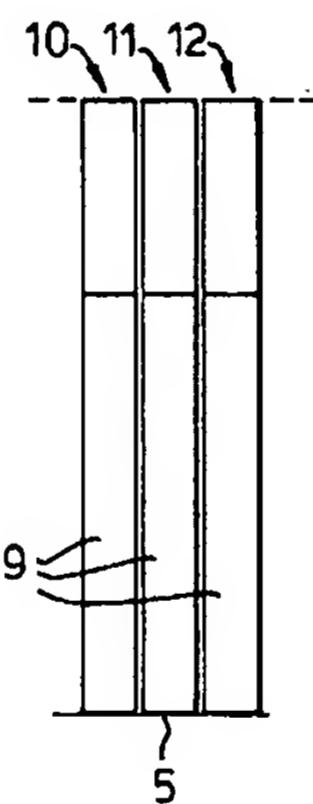
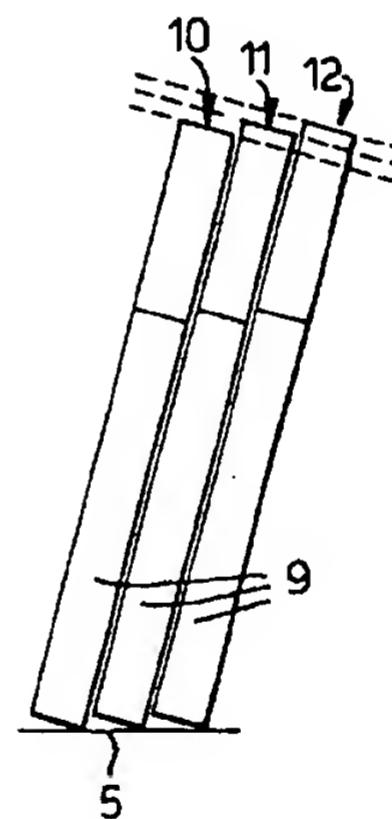


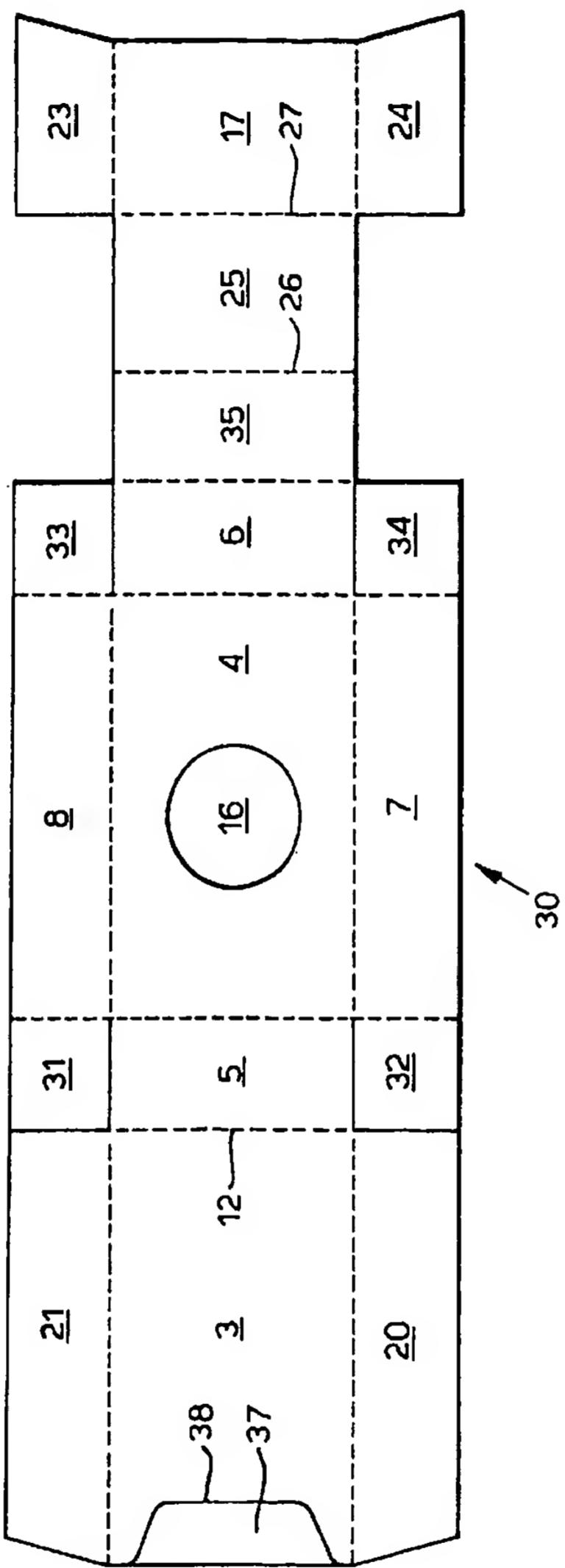
Fig.5b.



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16 12 33 723 1

Fig.6.



13 12 30 12341

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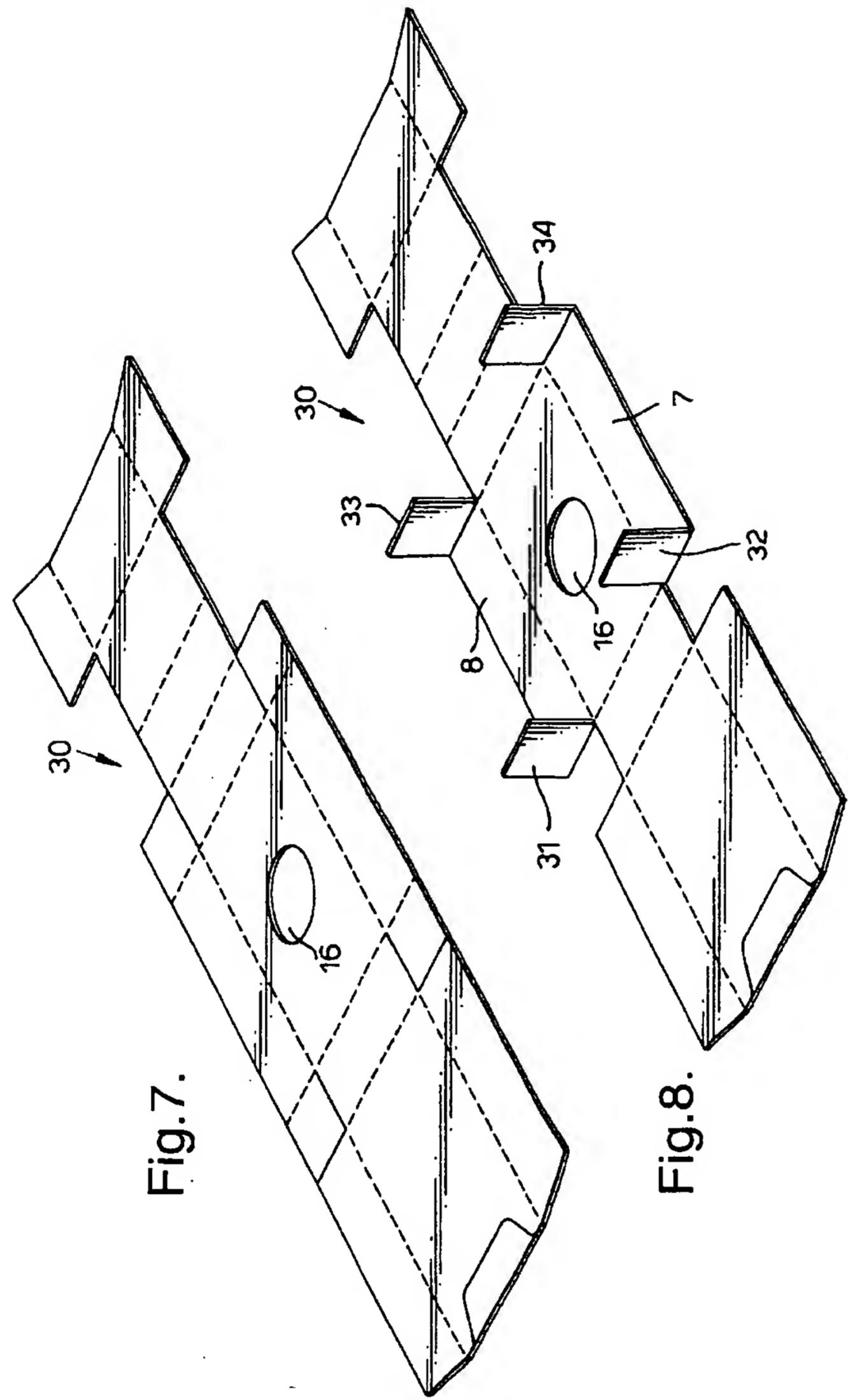
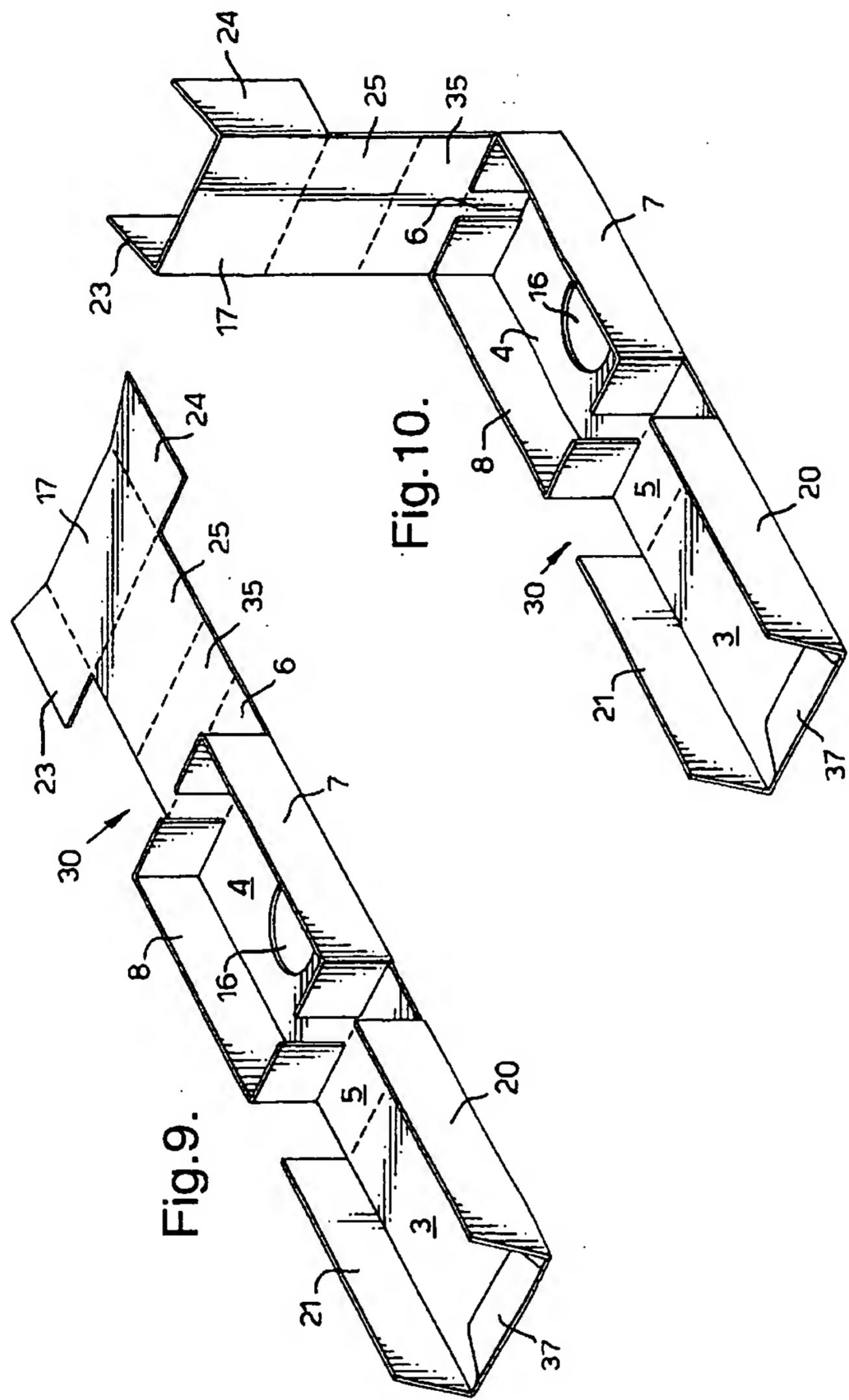


Fig.7.

Fig.8.

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13 12 33 123 41

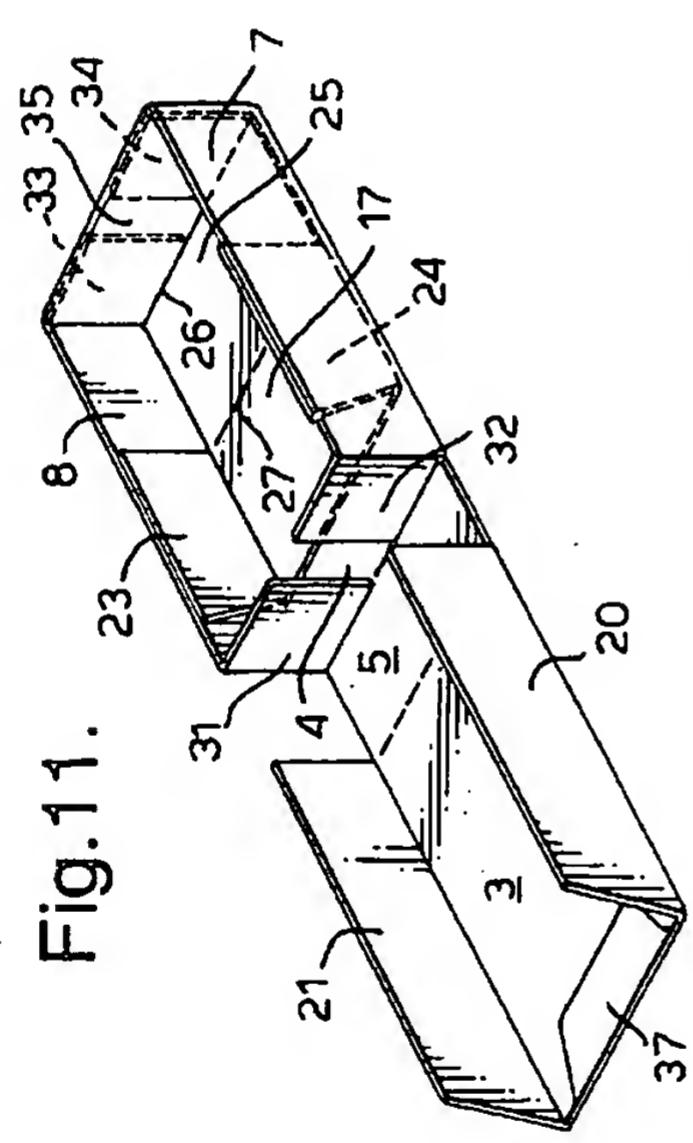
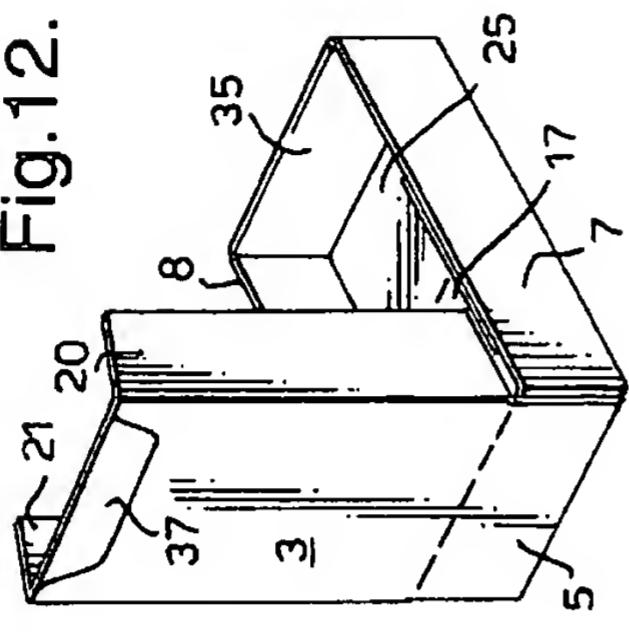


Fig.12.



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Fig.13a.

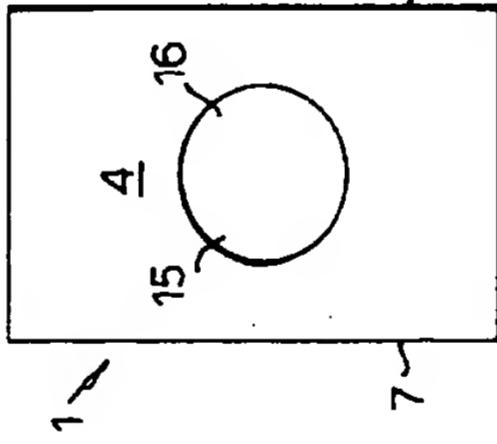


Fig.13b.

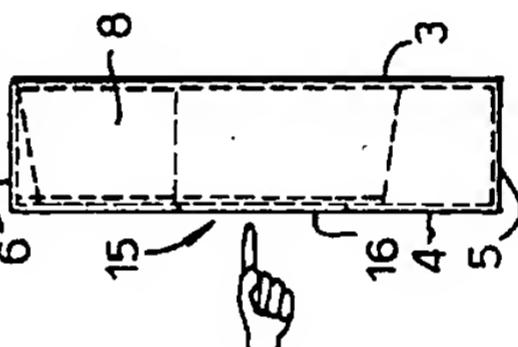
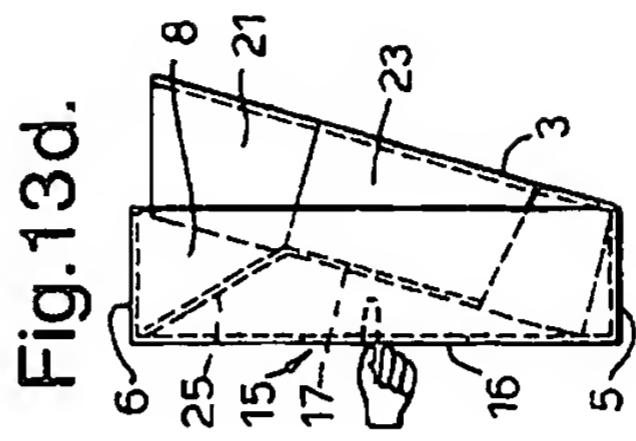
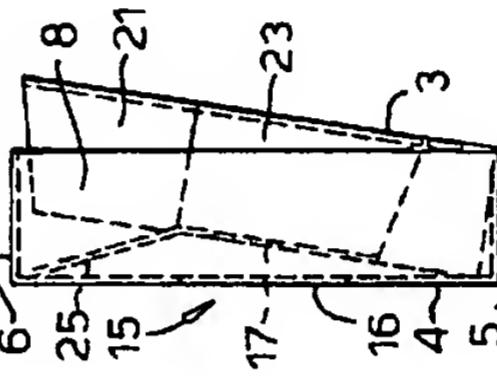


Fig.13c.



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